REMARKS

Claims 1, 4-7 and 26-27 are pending. Claims 26-27 are newly added.

In response to the Examiner's rejection of claim 1 on the ground that it is indefinite, Applicant has amended the claim to clarify that the user-preferences are associated with at least one of the buy order or one of the plurality of sell orders. Support for this amendment can be found, for example, at page 30, lines 1-2 ("Both buy and sell orders may include objective functions, which encode the user's preferences.")

Previous claim 1 stands rejected for obviousness over Sundaresan in view of Walsh. In response, Applicant notes that claim 1 has been amended to recite that the "buy order includes a filter specified by the user that creates an arbitrarily-shaped region within the at least four dimensions" and that searching is performed "in accordance with the filter specified by the user ... in order to identify one or more sell orders that are within said arbitrarily-shaped region."[1] Thus, the present invention allows the user to specify an arbitrary list of acceptable attribute ranges for the order by specifying a filter that eliminates all matches outside of the region. For example, suppose that air tickets for a specific pair of cities were defined using two attributes: date and time. A buyer using the present invention would be able to specify any acceptable dates and time intervals. For instance, the buyer may specify that she would like to travel between December 10 and 20, and she needs to leave either between 10:30am and 11:40am or between 5:00pm and 6:30pm.

[1] Support for this amendment may be found, for example, at page 25, lines 9-10 of the Specification ("An optional filter function may eliminate some subset of the defined region, thereby allowing the buyer to create a smaller, arbitrarily shaped region.")

In contrast to claim 1, Sundaresan provides a more limited mechanism whereby the seller divides each attribute into specific pre-set intervals, and buyers can use only these pre-set intervals in their order specification. For example, a seller of an air ticket may divide the times into AM and PM; then, a buyer may indicate that she would like to fly in the morning or evening, but she cannot provide any other specification of the preferred time. Simply put, claim 1 is distinguishable from the cited prior art because Sundaresan fails to allow the user to specify an arbitrary list of acceptable attribute ranges (i.e., ranges not preset by the seller(s)) for the order.

In addition, claim 1 has been amended to recite "an indexing tree that includes [a] plurality of sell orders for objects having said at least four dimensions ...." The indexing tree is searched, in accordance with the filter specified by the user, in order to identify one or more sell orders that are outside of the arbitrarily-shaped region defined by the user. In contrast to claim 1, which recites an indexing tree that includes a plurality of sell orders, each sell order in Sundaresan corresponds to a different tree. By using an indexing tree structure to store a plurality of sell orders, the present invention achieves fast matching of multi-dimensional buy and sell orders. Thus, claim 1 is distinguishable from the cited prior art for the further reason that Sundaresan fails to teach an indexing tree that stores a plurality of sell orders.

New claim 26 is substantially the same as claim 1, except the buy order in claim 1 has been replaced with a sell order in claim 26, and the sell orders in claim 1 have been replaced with buy orders in claim 26. See, e.g., Specification at p. 15, lines 21-23 ("One embodiment of the invention receives the buy order and looks for a matching sell order.

In the same or another embodiment of the invention, the first order may be a sell order while the second order may be a buy order.")

New claim 27 recites a computer-implemented method to trade objects over a network. A first order is received from a user. The first order comprises an order size and a plurality of buy sub-orders or a plurality of sell sub-orders, and each of the sub-orders includes a different description having at least four dimensions and associated with an object to be bought or sold. A disjunctive order message is received indicating that the user wants to execute exactly one of the plurality of sub-orders, and then delete the other of the sub-orders. A computer memory is searched for a second order that matches one of the sub-orders. The sub-order that matches the second order is executed and the other of the sub-orders that do not match the second order are automatically deleted. Support for new claim 27 may be found, for example, at page 29, lines 15-22 of the Application as originally filed. It is respectfully submitted that none of the prior art of record teaches a "disjunctive order message" as recited in claim 27.

In view of the foregoing amendments and remarks, it is submitted that pending independent claims 1 and 26 are in condition for allowance. It is respectfully submitted that all dependent claims are allowable because each such claim depends from an allowable base claim. A Notice of Allowance is earnestly solicited.

The Commissioner is hereby authorized to charge any deficiency in the fees due in connection with this filing Deposit Account 50-0310. A duplicate of this authorization is enclosed.

Respectfully submitted,

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Dated: January 25, 2006